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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,658	06/27/2003	Jeong-Ju Lee	8836-190 (IB11207-US)	2617

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EXAMINER

CHEN, ALAN S

ART UNIT	PAPER NUMBER
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2182

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/607,658	Applicant(s) LEE, JEONG-JU	
	Examiner Alan S. Chen	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-8 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 and 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8 and 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 6-8 and 13-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. Claims 6-8 and 13-16 are rejected under 35 USC 103(a) as being unpatentable over US Pat. No. 5,867,690 to Lee et al. (*Lee, presented previously*) in view of US Pat. Pub. No. 2003/0028746 to Durrant.

Independent Claims

3. Per claim 6, Lee discloses a method of data transmission of a computer system (*Fig. 5*), comprising: reading first endian information of at least one peripheral device (*Fig. 5, element 550, data over bus has a specific endian designation*); determining whether second endian information of the computer system (*Fig. 5, element 510 has a second endian designation*) is identical with the first endian information of the at least one peripheral device (*Column 8, lines 15-40 disclose comparing endian information from address data to determine whether to byte swap, or based on control signals that are issued to the byte swapping device, Fig. 5, element 530, the control signals resulting from whether the endian designation of elements 510 and 520 match*); byte-swapping data of the at least one peripheral device when the second endian information is different from the first endian information (*Figs. 6 and 7, element 740 signals to swap data when the endian information do not match*), and transmitting byte-swapped data to a system bus of the computer system (*Fig. 5, depending on the direction of transfer, the*

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data is transmitted according to the correct endian designation of elements 510 and 520); and transmitting the data of the at least one peripheral device to the system bus when the second endian information is identical to the first endian information (Column 7, lines 15-20 express states to let the data pass through with no byte swapping).

Per claim 13, Lee discloses a method of data transmission of a computer system (Fig. 5), comprising: reading first endian information of at least one peripheral device (Fig. 5, element 550, data over bus has a specific endian designation); determining whether second endian information of the computer system (Fig. 5, element 510 has a second endian designation) is identical with the first endian information of the at least one peripheral device (Column 8, lines 15-40 disclose comparing endian information from address data to determine whether to byte swap, or based on control signals that are issued to the byte swapping device, Fig. 5, element 530, the control signals resulting from whether the endian designation of elements 510 and 520 match); and byte-swapping data of the at least one peripheral device when the second endian information is different from the first endian information (Figs. 6 and 7, element 740 signals to swap data when the endian information do not match).

Per claim 16, Lee discloses a method of data review of a computer system (Fig. 5, reviews endian designation between processor 510 and 520), comprising: reading first endian information of at least one peripheral device (Fig. 5, element 550, data over bus has a specific endian designation); and determining whether second endian information of the computer system (Fig. 5, element 510 has a second endian designation) is identical with the first endian information of the at least one peripheral

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device (*Column 8, lines 15-40 disclose comparing endian information from address data to determine whether to byte swap, or based on control signals that are issued to the byte swapping device, Fig. 5, element 530, the control signals resulting from whether the endian designation of elements 510 and 520 match*).

Lee does not disclose the first endian information being a bit from the at least one peripheral device and comparing the bit with second bit information from the computer system.

Durant discloses a technique where endian information is encoded into the bit stream that is passed from one unit to another (*Fig. 9, element 59*) such that the bit will indicate to the receiving unit whether to invert the data or not (*Paragraph 67*).

Lee and Durant are analogous art because they are from a similar problem solving area in handling endian disparities between two systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to determine endianness of an incoming data stream by scrutinizing an incoming bit for endianness information.

The suggestion/motivation for doing so would have been to simplify the design and minimize comparison time by simply tagging a piece of data with endianness orientation. Comparing a single bit would be more efficient than comparing multiple bits. See the further cited prior art at the end of the action that show further known techniques in comparing bit information to establish endianness.

Dependent Claims

4. Per claim 7, Lee combined with Durrant discloses claim 6, Lee further disclosing the first endian information of the peripheral device is stored in a base address register (*Column 9, lines 35-43, base memory address in peripheral storage, element 520, is bound to a register; Column 1, lines 65-Column 12, lines 5 disclose registers storing data type information used by data elements such as 510, 520 and 530; Column 9, lines 8+ disclose these data type information is used to determine whether to byte swap or not*).
5. Per claim 8, Lee combined with Durrant discloses claim 6, Lee further disclosing the second endian information is stored in a system configuration register (*Column 1, lines 65-Column 12, lines 5 disclose registers storing data type information used by data elements such as 510, 520 and 530; Column 9, lines 8+ disclose these data type information is used to determine whether to byte swap or not*).
6. Per claim 14, Lee combined with Durrant discloses claim 13, Lee further disclosing transmitting byte-swapped data of the at least one peripheral device to a system bus of the computer system (*byte swapped from storage device, element 520, is sent by byte swapping device, element 530, to the system bus, element 540*).
7. Per claim 15, Lee combined with Durrant discloses claim 13, Lee further disclosing transmitting the data of the at least one peripheral device to a system bus of the computer system when the second endian information of is identical with the first endian information (*Column 7, lines 15-20 disclose the byte swapping device passes through the data without byte swapping if the endian information is the same*).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents and patent related publications are cited in the Notice of References Cited (Form PTO-892) attached to this action to further show the state of the art with respect to comparing endian information to determine whether to byte-swap received/transmitted data.

- US Pat. No. 6,578,193 to Adams discloses comparing endian data from a transmission unit to platform endian data, and based on the comparison, determining whether to byte-swap the data or not (*Fig. 14*).
- US Pat. Pub. No. 2002/0124242 to McGoogan et al. discloses comparison of a code value from one area with the code value from another area and converting endianness of data based on the code values not matching (*Paragraph 104*).

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASC
03/26/2007

Alan S. Chen
3/26/07